

GOBIERNO DEL ESTADO DE BAJA CALIFORNIA

SECRETARÍA DE DESARROLLO ECONÓMICO



Energy in Baja California

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Current situation in Baja California

- **Baja California does not have its own Natural Gas Reserves Grid as well.**
- **Baja California is isolated from the National Pipeline System and the National Electrical Grid as well.**
- **Baja California has the second highest growth Nationwide, in terms of power generation. And also has the highest demographic growth in Mexico (5.8%)**
- **Baja California LNG supply depends only on imports from the United States of America**

Energy Infrastructure in Baja California





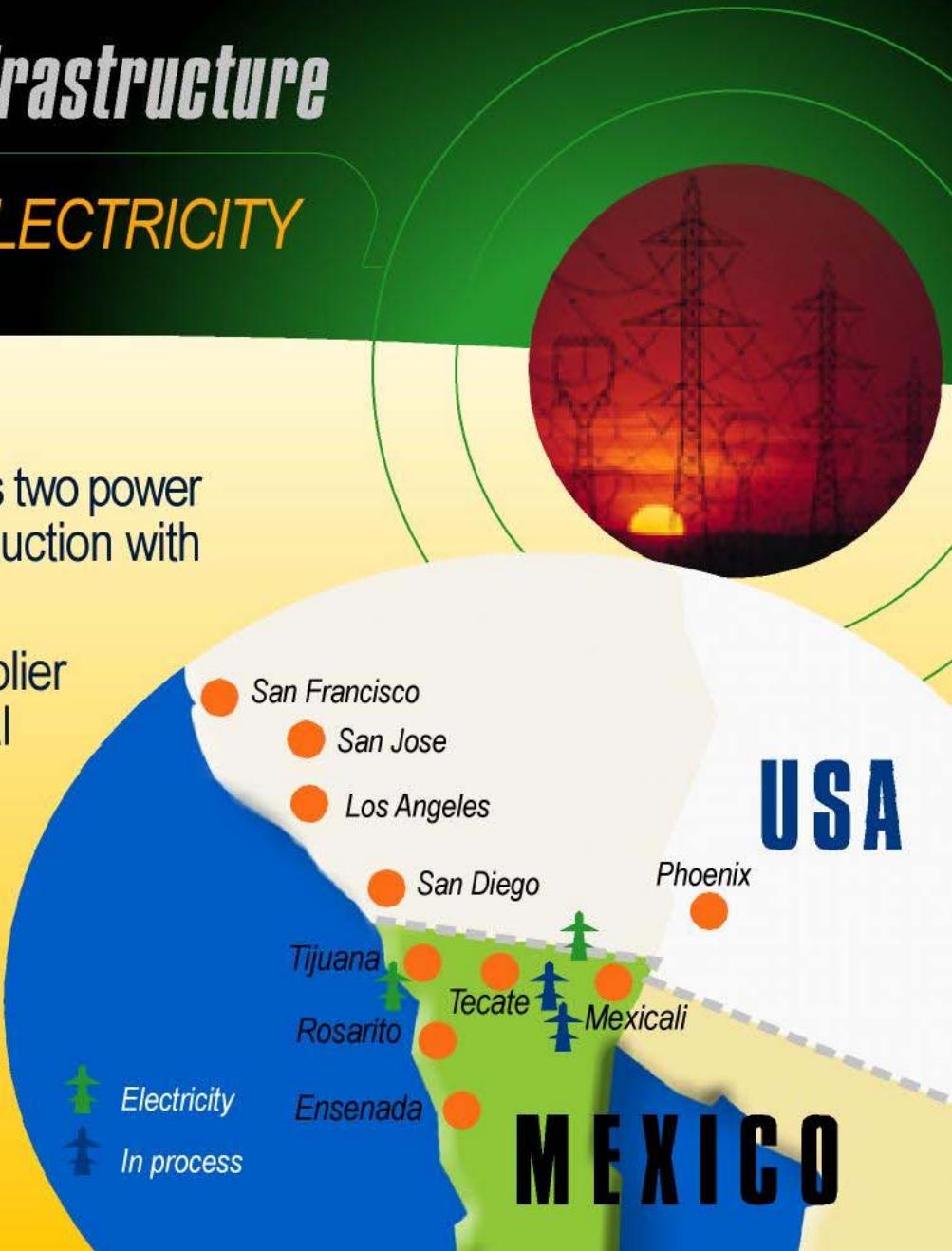
World Class Infrastructure

ELECTRICITY

- Baja California produces 2,285 MW in its two power facilities (14% of Mexico's energy production with only 2.8% of Mexico's population.)
- California's only overseas energy supplier
- Our State holds the largest geothermal electric plant in Latin America (720 MW)

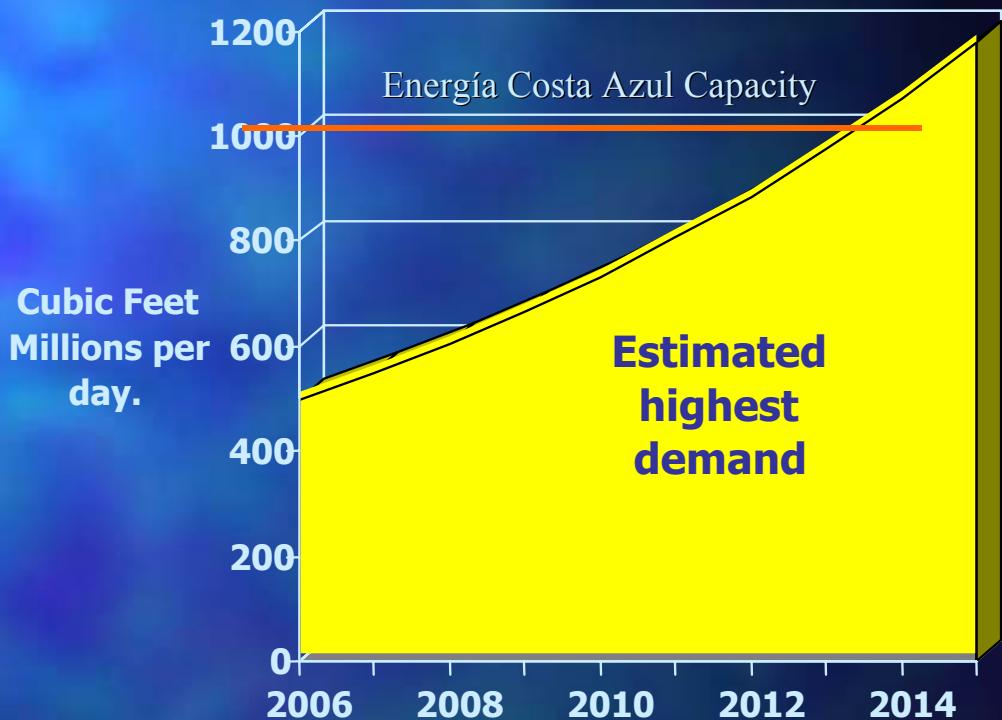
Two major projects to export for the California Market

- INTERGEN producing **600 MW**
- SEMPRA ENERGY producing 600 MW



Demand of Natural Gas in BC

- The demand of electrical energy has been growing 500 MW every 4 to 5 years, which means a new combined cycle plant in the same period of time.
- According to the Energy Secretariat, in the next 10 years the demand of energy in Baja California will grow up from 5% to 8% annually.



Source: Secretaria de Energia (SENER)

Comision Federal de Electricidad (CFE)

Solutions for Natural Gas needs in Baja California

- **Creation of a Natural Gas alternative source to the region by constructing an LNG regasification terminal plant.**

LNG Value Chain

1.- Gas Production



2.- Liquefaction Plant



3.- Regasification terminal plant



4.- Loading & Shipment



5.- Delivery by Pipelines



Benefits for Baja California

- **Stability on reliable and competitive Natural Gas supply; sustaining the economic growth of the region.**
- **Energy Autonomy. Different supply origins, eliminating one source dependency.**
- **Mexican regulations and specs.**
- **Natural Gas supply source for the whole state of Baja California that will support its economic development and quality of life.**

Economic Benefits from one LNG Station

- **Economic overflow during construction**
 - The total apportionment in Baja California will be \$330 millions -\$226 millions of dollars in Ensenada municipality only-*.
 - Jobs: During construction, 3,312 direct and indirect jobs will be generated.
- **Suppliers development program:**
 - Cooperation agreement with the whole state Business Associations to promote its participation.

* Source: COLEF –Northern Border Research Intitute- Economic Impact Study

Site Selection

■ Selection Criteria

- Away from urban and industrial plant areas.
- Sufficient land reserve for buffer zone's.
- Closeness to the coast and nearness to deep sea.
- Less visual impact.
- Acomplishing local environmental protection regulations –Cocotren-
- Acomplishing federal enviromental and ecological protection regulations SEMARNAT



Selected Location



Pipeline Route Costa- Azul Bajanorte



Open Access

- CRE* regulations for Natural Gas transportation:
 - CRE license only granted to permissioners for LNG storage and regasification.
 - The natural gas pipelines should be open access to any permissioner.
 - No exclusivity to any permissioner.
 - CRE rules tariffs and conditions for natural gas transport.
 - The transport permit only authorizes the permissioner to bill the service.

*Source: Natural Gas Normativities from the Regulatory Comission of Energy (CRE)

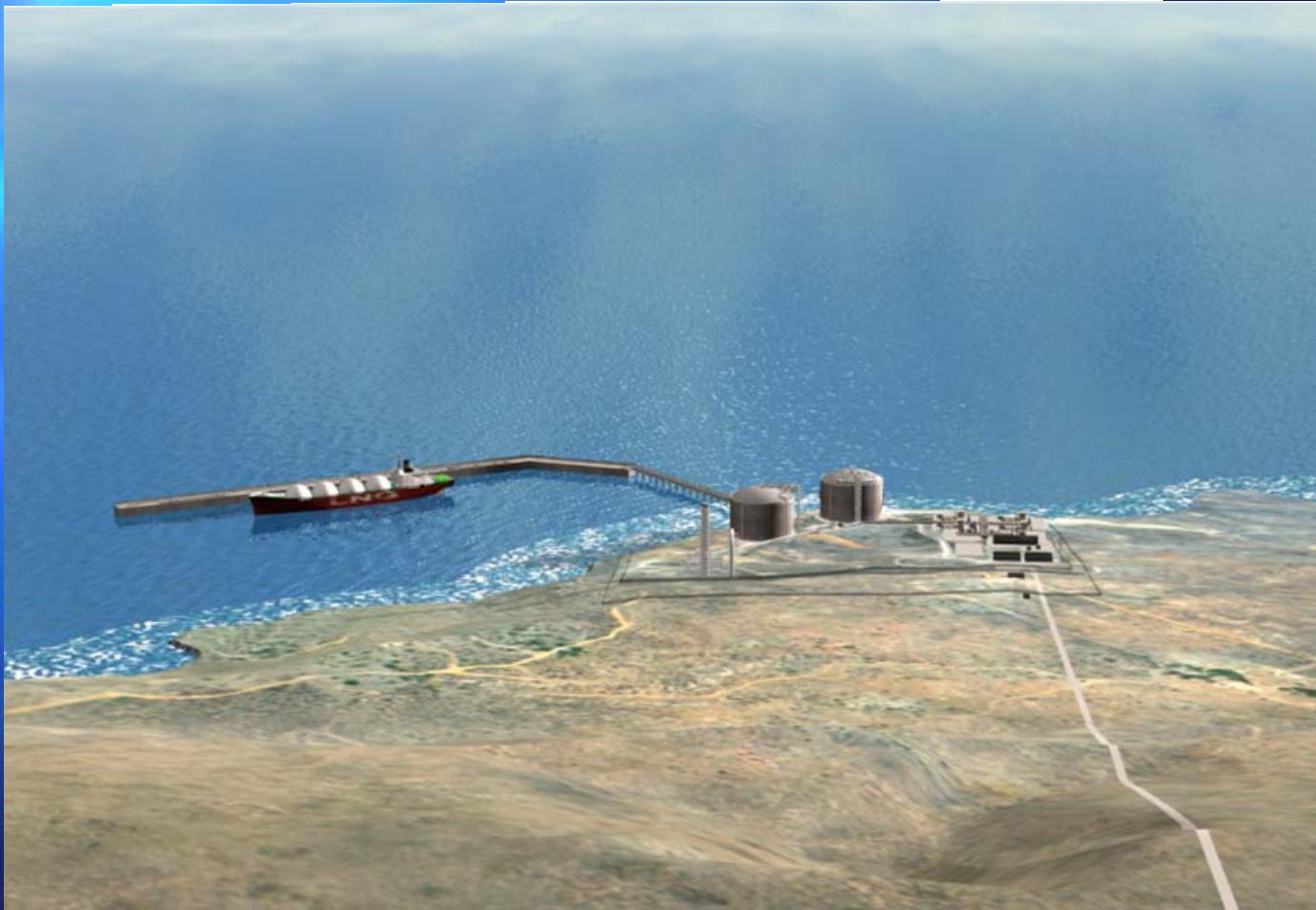
South-North View



West-East View



East-West View



**•SEMPRA ENERGY INTERNATIONAL AND SHELL GAS AND
POWER, GLOBAL SOLUTIONS, LTD JOINT VENTURE**

License: C.R.E. Granted LNG storage and regasification license.

Environmental Impact Statement approved by SEMARNAT.

Location: Costa Azul seashore region, 15 milles north of Ensenada, secluded and away from any urban concentration

Use of Land: The “Use of Land” license has been granted by the Ensenada. City Government and in accordance with the State Government recommendation

Investment: \$800 USA dlls

Employment: Temporary, during construction, 2200 to 2400 jobs. and 100 to 200 permanent jobs.

Current Status: Joint venture negotiations. Access road to start third quarter 2004. Plant construction to start late 2004

